

THE WAR.

THE TREATMENT AND TRAINING OF WOUNDED MEN.

THE TIPPERARY COMMAND DÉPÔT.

IN order to ensure the suitable medical treatment of soldiers invalidated from the Expeditionary Forces so that they may become fit again as quickly as possible, command dépôts have been instituted at which men are received whose condition may necessitate a stay of any period up to six months, men who cannot be sent to a convalescent camp or dépôt, to which those who ought to be ready for service overseas within a maximum of six weeks of their transfer are sent.

In the case of men who are to remain in a dépôt for such a lengthened period, one of the great factors in getting and keeping them well is the provision of useful and pleasant occupation for the mind as well as means adapted to the repair and building up of the tissues of the body; if at the same time it is possible to prepare these men for useful work in civil life so much the better. Many of them have lost their old occupation or the capacity to carry it on, and they still require something to help out their pensions, and, perhaps equally important, keep them out of mischief not only during the time of their treatment but at the much more dangerous period—the end of the war.

These command dépôts are essentially military organizations, with, however, a larger element than usual of medical supervision. Existing barracks and hutments, well ventilated and slightly modified, are utilized.

THE WORK OF A COMMAND DÉPÔT.

We are indebted to Dr. C. E. Ryan of Tipperary for some particulars of the Irish command dépôt established there under the direction of Lieutenant-Colonel Sims Woodhead, Professor of Pathology in the University of Cambridge.

The fine barracks in Tipperary, with, in addition, hutments for two full battalions, and a large union, provide accommodation for the men of the eight Irish regiments who have returned from the Expeditionary Forces—the Royal Irish Fusiliers, Royal Irish Regiment, Royal Irish Rifles, Royal Inniskilling Fusiliers, Royal Dublin Fusiliers, Royal Munster Fusiliers, Leinster Regiment, and Connaught Rangers—regiments that have earned fame on so many fields. These men, when they arrive at the dépôt, are not yet strong, and many of them require special treatment. They have, however, to carry out most of their regimental duties under company officers who have been wounded alongside them; these officers look after their training, discipline, pay, messing, and the like.

The work of the dépôt will probably be best understood from a short account of the daily routine, it being borne in mind that the men remain for more than six weeks, but are likely to benefit permanently by a six months' residence in the dépôt. The men, most of whom are able to travel and march a moderate distance, though others may have to be conveyed in an ambulance wagon, are sent out from the hospitals or the regimental dépôts by district travelling medical boards. Arrived at the dépôt, all regimental details are collected and recorded by a company sergeant-major. They are allowed to settle down and become accustomed to their surroundings, but within forty-eight hours they are examined, first by the medical officer of the company to which they are assigned, and then by the medical officer in charge, who makes notes, decides treatment, and classifies, according to the amount and nature of duties, the drill and the character of the exercise they appear able to do. Those who require no treatment but rest, graduated physical exercise, and drill, are divided into four classes, 1, 2, 3, and 5, according to the nature and extent of injury and fitness. When special medical or gymnastic treatment is necessary they are put into Class 4, or more frequently into that and another class also, so that a man may be in either 1 and 4, 2 and 4, 3 and 4, or 5 and 4, as the case may be, the special treatment being carried out alongside the performance of the duties and exercises of one of the four other classes.

At first sight this may appear to be a somewhat complicated classification, but in practice it works smoothly and

well. Under the commandant the military training of the men is in the hands of a major and company officers, assisted by a gymnastic instructor from Aldershot and a staff of assistant instructors selected from the dépôt and trained by the sergeant-instructor. Each class, 1, 2, 3, and 5, is passed through a systematic graduated course of physical drill and route marching, the men passing from the lowest class, 5, to the highest class, 1, in which are placed all those who are likely to be fit to return to their regiment for general service at the end of a further six weeks' period of training.

The special treatment given in the dépôt may be summed up generally under the headings: Massage, electrical treatment, galvanic, faradic, sinusoidal, and ionization; passive movements, usually combined with the massage and carefully supervised active movements on sliding-seat rowing machines, Foot's pulley exercisers, wrist machines, wall bars, peg poles, stationary cycle, Swedish drill for special groups of muscles, and plinth work, some of which of course is passive. Various kinds of baths—hot, douche, and needle; continuous temperature baths at 93° F., and tepid and cold baths—are also used as occasion may require. This side of the work is supervised by the medical officers, who are assisted by a trained drill sergeant, by one of Madame Osterberg's pupils, and a number of intelligent members of the R.A.M.C.

Many of the men suffer from general debility the result of malnutrition or impaired digestion after gassing, bad teeth, pyorrhoea alveolaris, fixed jaws, resulting from fractured rami, etc.; for these there is a special diet room. One of the men transferred from his regular mess to this diet room put on 11 lb. in ten days.

Some of the men suffer from stiff joints, useless fingers, tender scars, wounds breaking out again, and the like. Such lesions can only be treated by means of small surgical operations, usually done under a local anaesthetic. For the performance of these operations conveniently and safely a small but well equipped surgical room has been fitted up. The results have been most encouraging. A dental surgeon with an extremely well equipped surgery completes the personnel of the dépôt.

It was early found that, especially in the case of classes 3 and 5, time might hang heavy on the hands of the men, and even those who are occupied during some considerable part of the day required evening recreation. To meet this a band, which has contributed greatly to the enjoyment of players and listeners alike, has been formed of wounded bandsmen or of other wounded men with some knowledge of music. Concerts and indoor entertainments have been given, sometimes in the large gymnasium, or again in the Y.M.C.A. huts, of which there are two in the dépôt. Since summer began various outdoor games, cricket, quoits, gymkhana, and boxing competitions have been organized. These, with the regimental institutes, have contributed to brighten the life of the dépôt, officers and men alike taking part in these various recreations.

HANDICRAFT SCHOOLS.

Another side of the life and work of the dépôt, and by no means the least important, is that associated with the system of training in various crafts, in the use of tools and the like. In this work the military and medical authorities have received the cordial co-operation of a committee composed of the chairman and secretary of the Tipperary Technical Instruction Committee, members of other public bodies, and one or two other influential local gentlemen. The Technical Schools Committee made the first step possible by placing their "handicrafts room," along with the instructor in this subject, at the disposal of the committee during such times as they were not used for ordinary classes, with the result that something like forty or fifty men who afterwards may become farm labourers or handymen, have, during the time that they have been training in the dépôt, received instruction in the use of carpenter's tools and methods of carrying out rough, and in some cases even fairly good, carpentry. Some of these men have been discharged not without some skill that will in after-life probably stand them in good stead. In the same school some dozen men have received instruction in cookery, and the authorities have been informed that most of these have proved themselves exceedingly apt pupils.

An effort has been made to train over a hundred damaged men in motor driving and in ordinary "road repair" work,

and in the elements of the theory and working of internal combustion engines. Many of them cannot become motor car drivers, but they may be able to turn their hand to farm work, where motor engines are coming more and more into use.

A class in French polishing has also been formed, another in the cobbling of shoes, and those who have followed the development of these classes have been astounded at the rapidity with which men have picked up a very considerable knowledge of and facility in these handicrafts. Now that machinery is used so much in the manufacture of shoes the demand for cobblers is very great, much greater than the supply, and from what has been noted of the work done in this dépôt, it is evident that these men will be ready to meet that demand.

Electric bell fitting, telephonic fitting, signalling, shorthand writing and typewriting have also occupied the attention of a certain, but, of course, comparatively small, proportion of the men of the command.

Much of the work of instruction has to be done by skilled teachers, but officers under treatment in the dépôt are playing a very important part in organizing and supervising this branch of the work.

In their spare time the men living in the hutments have developed a taste for gardening, or at any rate have laid out gardens for which company officers have felt justified in giving somewhat liberal prizes.

As the outcome of the work of and the experience gained in the dépôt, the local executive committee have decided to equip and maintain a special institute in which discharged soldiers, who, during their period in the command dépôt have undertaken the class work, and even some who have not, but wish to be specially trained, may attend the classes organized for the men in the dépôt. It is also contemplated that soldiers discharged on account of permanent disability from other dépôts may be received in this institute, which would be under the charge of a time-expired or partially disabled non-commissioned or warrant officer, who would maintain discipline, and whose wife would look after the domestic comfort and culinary arrangements of the institute.

THE ORGANIZATION AND STAFF.

It is obvious that work of this kind could only be a complete success if the combatant and medical staffs worked in hearty co-operation to bring approved customs and regulations into conformity with a series of entirely new conditions. In the Irish Command Dépôt this co-operation has certainly been achieved, and throughout the two staffs have worked together in perfect harmony, with the result that co-ordination has been excellent, and comparatively little effort has been required to overcome difficulties that might under other conditions have been almost insuperable. With a "scratch" staff made up largely of wounded men, home hospital reserve men, who, of course, were entirely new to the work, a number of masseuses of the Almeric Paget Massage Corps, and officers and medical men taking up duties to which they had not been accustomed, the occasions for friction and irregularity might have been numerous, but every one turned to so heartily and conscientiously that, though there may now and again have been irregularities and lapses from strict regulations, these were so trifling, and in some cases so amusing, that they interfered not at all with the efficiency of the work, and those in authority speak highly of the work done by their subordinates.

A point which is coming home to all who have followed the development of these convalescent dépôts and the course of the cases is that a great need has arisen for surgeons who have devoted themselves to plastic and orthopaedic surgery. Some of them might carry on their work in the dépôts could a small number of beds be set aside in the nearest military hospital for the reception of patients operated upon, and there appears to be little doubt that were such secondary surgical work encouraged not only in these dépôts but in special hospitals, many of the patients would be rendered sound and fit in less than half the time now required for cure, and others who, without such operations, would be crippled for life, might have their condition greatly ameliorated. Even now, were there a number of beds available a travelling surgical and advisory staff, which in certain cases might operate, would be an asset, and, without stereotyping the dépôts or

interfering with the individuality of those who are responsible for the working of them, would be able to introduce a certain amount of co-ordination and common action, and be the means of carrying the experience gained at the various dépôts from one to another.

The display of public interest and sympathy in these dépôts has been astounding, and apparently the more they are used to draw in patients who have been discharged from military and regular hospitals and keep them under observation the better will be the results obtained, the less will discipline suffer and the more promising the future history of the patient.

Many of the patients sent into the Irish Command Dépôt when it was first opened were very unsuitable for treatment; some indeed were "hopeless," but latterly much greater attention has been paid to the strict rules for admission laid down by the authorities. In spite of this nearly 10 per cent. (9.7) of all the cases admitted up to date have been returned to their dépôts fit for general service; about 0.9 per cent. for garrison duty abroad, and 20 per cent. for garrison duty at home (of these latter about a third or half will ultimately, probably in two or three months, be fit for general service). About 1 per cent. have been sent out as munition makers, and 12.2 per cent. of the men have been invalided out of the service; about 56 per cent., many of them recent arrivals, remain under treatment in the dépôt.

OTHER PROVISIONS FOR BRITISH SOLDIERS.

WHEN we inquire what is being done for the British soldier who has been disabled in the war, we find that in one department, the strictly medical section of the work, the work is very good up to a point, though it requires extension and greater elasticity in certain directions.

For the man who has lost a limb there is the hospital at Roehampton, where workshops have been established, and the corresponding hospital more recently established near Glasgow, as well as the smaller hospital at Edenhall, near Kelso, and several auxiliary institutions in various parts of Great Britain.

For the man whose disability is of such a nature as to afford reasonable hope that it will be possible for him to be returned to the ranks within a period of six months, there are such command dépôts as that at Tipperary described above, and that at Heaton Park, Manchester.

For the treatment of cases in which surgical orthopaedic treatment is necessary a special military department has been established under an Inspector of Military Orthopaedics (Lieutenant-Colonel Robert Jones). The central institution of this kind in England is the Hammett military orthopaedic hospital, established in a fine building at Wormwood Scrubbs, nicknamed the paupers' palace by indignant ratepayers, to whom the hackneyed phrase "they builded better than they knew" may be appropriately applied, for it has proved very adaptable to its present purpose. The neighbourhood, if not fashionable, is open, and the buildings well planned and easily cleaned and ventilated. It has a staff of skilled orthopaedic surgeons, through whose hands a man first passes. They apply such surgical treatment by way of operation or otherwise as may be appropriate, and the man can afterwards be referred to massage and electrical departments in the building. There is a medical man of special experience at the head of both these departments, by whom appropriate special treatment is prescribed, and under whose supervision it is carried out. As in Paris there is a department where a skilled artist makes careful drawings and prepares models. Not only does this system provide graphic records which can be preserved, but a collection is being formed which will be of the utmost value to surgeons, as illustrating the results of operations for various deformities. There are, for instance, some most striking models of deformities of the foot, such as hallux valgus and rigidus and claw-foot, before and after appropriate treatment by operation, splinting, massage, and movement. Other military orthopaedic hospitals are being, or have been, established in various centres in England and Scotland, and there is already a large institution at Croydon where work of this kind is carried on for the Eastern Command.

With regard to the re-education of disabled men who must be discharged from the army—their training, that is

to say, in order to enable them to return to their old trade, or to learn another—the position is as yet undeveloped. As will be seen, a good start has been made at Tipperary, where, with the co-operation of the county Technical Instruction Committee, educational workshops have been set up, and there is a small school at Chailey, but we have nothing to compare with the great school established under the direction of Professor Spitzzy at Vienna, as described in the JOURNAL of July 8th last, p. 55.

THE BELGIAN SCHEME FOR DISABLED SOLDIERS.

HOSPITAL AND SCHOOL.

As long ago as November, 1914, the Belgian Government took up the question of the provision which should be made for the treatment and re-education of men discharged from Belgian military hospitals convalescent from their wounds but suffering from various disabling consequences.

The Hôpital Anglo-Belge and its Dependencies.

With the assistance of the Anglo-French Committee of the British Red Cross the Hôpital Anglo-Belge was established at the end of December, 1914, in the buildings of a technical school at Rouen. The hospital started with fifty or sixty beds, but three months later the number at its disposal in Rouen had been increased to about 350, and subsequently subsidiary hospitals were established at Orival, with 275 beds, and Saint Aubin lez Elbeuf, with 325. About the same time a dépôt for discharged soldiers was established at Havre and was gradually transformed into a school for re-education. Finally, in August, 1915, a military institute for re-education was established near Vernon, on the Seine below Rouen.

The hospital at Rouen was placed under the direction of Dr. Armand Deltenre, senior officer of the Belgian Army Medical Service, who has continued in charge of the enlarged organization, and has recently published a pamphlet describing it.¹

General Considerations.

In this pamphlet, which brings the story down to the end of 1915, he begins by setting out very clearly the problem which had to be solved. The men sent to the Rouen hospital were patients discharged from military hospitals or convalescent dépôts suffering from wounds of the joints, bones, or nerves, but not then fit to rejoin for service. It was at once apparent that the cases fell into two main classes: (1) Those who it might be hoped could be sufficiently restored either to return to the army or to a full earning capacity in civil life. Under this head Dr. Deltenre enumerates cases of partial or total ankylosis, cicatricial contractions, muscular atrophy, lesions of tendons or nerves, and malunited or ununited fractures. (2) Cases in which the disability appeared likely to be permanent and incurable, though the working capacity of many could be considerably improved. He estimates that of all the cases admitted 80 per cent. could be improved to some extent—45 per cent. so much that they would be able to earn a living wage, and 35 per cent. to a degree which would render them able to do some work. This leaves 20 per cent. who, it would seem, were found to be permanently unable to earn anything.

From the first it was determined that the scheme must include a hospital and a school for re-education. The first question was whether these two institutions should or should not be under the same direction. The answer to this question was governed by the consideration that it is very difficult to determine the stage in any case at which hope of any further improvement through the employment of physiotherapeutic means must be abandoned. Experience showed that education in a trade often had a very favourable effect on functional disabilities which had resisted all therapeutic measures. The conclusion, therefore, was that the hospital, with its physiotherapeutic department and the school—since the one was the

complement of the other—ought to be close together in the same place. As circumstances prevented the realization of this ideal, Dr. Deltenre had to content himself by keeping both under the same general direction, and providing for the closest possible co-operation.

THE MEDICAL ORGANIZATION.

The strictly medical side of the organization, of which Dr. Deltenre remains directly in charge, consists of two parts: (1) the orthopaedic service, where surgical operations are performed, and artificial limbs or other appliances fitted; and (2) the physiotherapeutic service, which provides mechanotherapy, thermotherapy, radiology and electrotherapy, medical gymnastics and pedagogic gymnastics.

Mechanotherapy.—It was resolved to instal resistance apparatus of the Zander type, and the difficulty of purchasing such apparatus was overcome through the ingenuity of Dr. Waffelaert, a regimental medical officer, who employed the wounded men themselves to make the apparatus necessary both for the upper and lower extremities. A point the importance of which has not always been recognized was early appreciated at Rouen—namely, that the joint above a stump—the hip, for instance, in amputation of the thigh—may be stiff or the seat of arthritis, and that before an artificial limb can be used the joint must be rendered supple, and the muscles of the stump developed as much as possible by massage and exercise; the improvised Zander apparatus were found very useful for the purpose.

Thermotherapy.—This service includes hot air and running water baths and a local hot air douche. The last method is most in use, the hot running water bath being used only when the hot air bath cannot be borne. When the weather permitted, certain wounds were exposed to light out of doors. It was found that direct sunlight was not indispensable.

Radiology and Electrotherapeutics.—In addition to x-ray apparatus, the hospital has appliances for galvanism, high frequency, and diathermy.

Medical Gymnastics.—As soon as possible the patient is set to do medical gymnastics on the Ling system under the direction of Swedish experts or persons trained by them locally. As many as 175 patients are exercised every day. The manipulations include massage, which is applied in a very early stage to cases admitted soon after operation. The greatest importance is attached to medical gymnastics, because, to use Dr. Deltenre's rather picturesque phrase, "it appeals to the essential function of the limb—movement."

Pedagogic Gymnastics.—By this term is understood gymnastics in class, usually without apparatus. In addition many of the wounded are employed in the workshops.

Orthopaedic Service.—Treatment by operation had, down to the time of the report, only been carried out on a small scale, but it was intended to develop it quickly in order to deal with suitable cases in the early stage. Much more had been done in the way of making artificial limbs and other appliances. This part of the work had been pushed on because it was considered that in this way the production of vicious attitudes in the limbs could best be prevented. It is urged that cases should be sent to the orthopaedic hospital from the ordinary military hospitals as soon as possible after amputation. Measurements are taken on admission, and while the artificial limb is being made attention is given to the joint, or joints, and the condition of the stump is improved by local baths, by massage, and by suitable spiral bandages applied from above to prevent contraction of the tissues and atrophy of muscles. For the lower limb the Beaufort leg is rejected, and two types have been developed, both of which have joints and are made of wood and leather. Importance is attached to having the patient constantly at hand so that the workman can try on as often as he thinks necessary. With regard to artificial arms, Dr. Deltenre states that so far no limb has been found of real utility for disarticulation of the shoulder. For amputations below the elbow, and above it if the stump is sufficiently long, an arm made of leather is in general use. A rigid hand with a jointed thumb can be attached, but is usually replaced by a hook and ring used alternatively according to the work to be done.

¹ *L'Hôpital Anglo-Belge, Institut de Physiothérapie et d'Orthopédie de l'Armée Belge.* Par le Dr. Armand Deltenre. Printed at the Institut Militaire Belge de Rééducation Professionnelle, Port-Villez, Vernon (Eure), and sold, price Fr. 1.50, for the benefit of the fund for crippled Belgian soldiers.

Dr. Deltenre gives the following statistics of completed cases for the period ending October, 1915:

	Destination.	Percentage.
Cured and discharged to divisional dépôt	1,170	58
Transferred to Vernon School	670	33
Transferred to Havre camp dépôt... ..	180	9
Total discharged	2,020	

This allows for no failures, and we must assume that all those for whose restoration to working efficiency there was little hope were among the patients still under treatment, who numbered 880.

THE DISABLED FRENCH SOLDIER.

We have from time to time published notes on the work done in France for men maimed or crippled in the war, and have had occasion to explain how, after overcoming many initial difficulties, the medical staff of the French army has established a central organization in Paris for those cases to which the methods of physiotherapy are specially applicable. Its cost to the State is, roughly speaking, nothing, as the building devoted to the work, the Grand Palais, is State property, and the equipment necessary has been provided free of charge by the insurance companies, the chief part of the funds having been supplied by the Syndicat de Garantie du Bâtiment et La Réunion des Assureurs, which recognized the immediate money value gained from the treatment in the reduction of the charges made upon their funds. Professor Jean Camus, who is the head of the service, was able to show¹ that from September, 1915, to February, 1916, the saving effected, based on the reduction of claims for damages, amounted to 18,164,980 francs (roughly, £726,000). The cases treated in the period numbered 3,348; of these, 2,676 (80 per cent.) were able to return to active service, 457 were drafted into the auxiliary services, and only 215 (7 per cent.) were finally rejected as unfit for military service. The improvements obtained, looked at from the point of view of function measured on arrival at the hospital and before discharge, showed that an average mean gain in function of 30 per cent. had been achieved.

To-day the Grand Palais is one vast military hospital, and the central unit of physical treatment in France. Sentries are at the doors, and strict military discipline prevails. The vast arena has been cut into two parts, the one half being used as a hospital and the other as a training school and gymnasium.

Appropriate treatment is assigned for each man, and he must every day present a card to each of those responsible for carrying it out, to be marked as a proof that he has duly attended. The cards are controlled at a central office, and the simple measure of allowing men conditionally the liberty of Paris has been found sufficient to ensure their rigid obedience to the rules. The importance of this is shown by the fact that, before the system was organized, out of 5,571 men for whom physiotherapeutic treatment was ordered, 1,000 never followed it at all, and 1,200 followed it irregularly, without deriving the benefit that might have been expected. Each man is medically examined on admission, and a note taken of his condition and the extent of available movement in the injured parts.

The rooms devoted to mechanotherapy present the appearance of a large factory workshop with rows of apparatus designed to reproduce the various movements of the limbs, with the result that there is a suitable apparatus to meet the needs of every case. Another department provides various forms of thermotherapy, including hot-air baths, and another electrotherapy, where opinions as to the value of static electricity for the relief of pain and of the irregularly varying current for stimulation have been confirmed. The hydrotherapeutic department has developed chiefly along the lines of treatment by hot water and the degree of movement of water. In the massage department, as in all others, treatment is given under immediate medical control by a large staff of trained masseurs. There is a special gymnasium equipped with the apparatus necessary for the treatment of injuries. Two

well-known French sculptors have given their services partly to prepare accurate models with a view of placing on permanent record the more remarkable injuries that have occurred through wounds received in war, and partly to provide the special apparatus necessary to give relief.

As regards the actual treatment given in the Grand Palais, there is no novelty, except in details; but those responsible for its organization have devised an institution that has grouped and correlated a whole class of treatments on a scale that has hitherto not been attempted. It started as an institute for massage, and has grown rapidly by the addition of the other departments mentioned.

Further, the work done at the Grand Palais is advancing knowledge. Special apparatus has been designed, making it a simple matter to analyse not only the degree of movement possessed by the patient, but also his power of movement. A graphic record enables force and fatigue to be read off at a glance, with the incidentally useful result that the detection of malingerers becomes a matter of great simplicity.

For the minority who have definitely to be drafted out of the service further special arrangements have been made. A department of the Grand Palais has been reserved for their use, where they are taught special trades and occupations for which their injuries do not incapacitate them, after the manner of the Bordeaux scheme, described in our columns (June 10th, 1916, p. 825). A society with its head quarters in Paris (L'oeuvre de l'Assistance aux mutilés pauvres) helps a man, when his training is finished, to set up in his native place or elsewhere by advancing him money to buy tools and materials.

THE BRITISH ARMY MEDICAL SERVICE IN FRANCE.

READJUSTMENTS AND EXTENSIONS.

THE effect produced on the medical arrangements by the extension of the British front has been relatively small. Holding an additional length of trenches of course means the employment in the firing line of an additional number of men, and this in its turn must mean an addition to the length of the weekly casualty list, even though nothing beyond ordinary trench fighting may be in progress. The base hospitals have, however, long been far too well organized for any such additions to make any difficulty for their work.

On the other hand, seeing that with an extended line the casualties are distributed over a wider area, a need arises for the establishment of fresh casualty clearing stations. But such casualty clearing stations had already been quietly mobilized in advance, and the only step required was to find sites for them and to move them up. This was promptly done, though the selection and arrangement of the sites must have given a good deal of trouble.

It also might have been expected on the face of matters that so considerable an extension of the line as that which took place would have involved some material modification of the previously existing organization for getting back the sick and wounded from front line formations to the various base hospitals.

But this was not the case. Many months ago the medical authorities established a southern line of evacuation to supplement the old northern route, and to make this southern line meet all the needs of the new situation nothing was required beyond the creation and linking up of one or two sub-lines.

Furthermore, the medical authorities had been equally long sighted in the matter of rolling stock—that is to say, of hospital trains, and also of canal ambulance barges.

Consequently, when the call came they were not disturbed. It is quite likely, indeed, that 75 per cent. of medical officers in France would, until they saw it stated in the papers, have remained unaware that a new army had been formed and a fresh length of front occupied but for the circumstances that from time to time various well-known officers disappeared from their accustomed posts.

A large proportion, in fact, of the more important administrative and other positions in the army holding the extended line of front, are held by men who made their mark in the old or northern section of the existing line.

¹ Archives de médecine et de pharmacie militaires, March, 1916.

They have brought with them long experience of the special medical needs created by trench warfare and of the ways in which men engaged in more or less siege-like operations can be kept in good health. Hence there is very little dissimilarity in the medical arrangements from one end of the line to the other, and everywhere at the front the position is satisfactory.

The same statement can be made with equal truth of the conditions on the lines of communication. Every reasonable provision has everywhere been made, and the whole organization works smoothly. Consequently, if and when the great push comes, the medical department will certainly justify all reasonable expectation.

Nevertheless, no one who has studied the possibilities of this war with care can feel absolute assurance that there will never be any delay in the evacuation of the sick and wounded nor shortage in the matter of hospital accommodation. With the weapons that are now employed it is always possible for an evacuation line to be rendered impassable for many hours, and for the casualties to number tens of thousands for many days in succession.

Coincident with the extension of the British line but not consequent thereon have been sundry developments or refinements on the side of medical administration. One of the more important of these affects the base hospitals. In the permanent military hospitals at home there is a considerable amount of delegation of authority. In particular the commanding officer, though he remains responsible for everything done in his hospital, has amongst other assistants two senior officers, who, under the title of officers of divisions, are in direct charge of its medical and surgical wards respectively, and exercise administrative authority over the other officers employed therein in clinical work.

A like decentralization in the hospitals that came into existence on mobilization was anticipated by the regulations regarding war establishments, but in the base hospitals in France the appointments in question were at first only exceptionally made. Other calls being numerous, there was some paucity of officers of sufficient military experience to fill these posts, and the need for filling them at all was partly eliminated by the supervisory authority granted to surgical specialists.

Recently, however, it has been thought well to put this part of the plan into full operation. The base hospitals as a whole have grown very large—the general hospitals have commonly over 1,000 beds, and the stationary hospitals over 500—and their staffs are relatively small; to secure satisfactory results, therefore, the details of all work must be very carefully organized. Furthermore, as time goes on, circumstances tend to make changes in the personnel more frequent, and many of the new arrivals have had no previous experience of base hospital work. Consequently it is very useful to have at hand officers who besides doing more or less clinical work themselves are capable of taking complete control of ward units and instructing new arrivals in their duties. A good many of the officers of divisions are temporary or Territorial officers who have been out in France for a long time and have in one way or another gained the necessary knowledge and experience.

Another development affects the field armies. Under a recent order every D.M.S. of an army has an expert in sanitation attached to his staff. The army rank of such officer differs in each individual case, and no doubt their precise duties depend very much on the views of the D.M.S. concerned. But the general idea appears to be to provide the D.M.S. with an officer who can collate for him all information, bearing on sanitation and preventive medicine, received at Army Head Quarters from the senior medical officers of corps and divisions, and can also, under his authority, conduct correspondence thereon, when required, with General Head Quarters.

The direct responsibility for supervising the sanitation of the army lies primarily in the hands of battalion medical officers; next in those of the officers of sanitary sections (these in some cases are known as divisional sanitary officers); then in those of A.D.M.S. of divisions and the D.D.M.S. of corps. There are also the officers in charge of the mobile laboratories allotted to each army. The areas they serve are often coterminous with those of corps, but they do not move with corps, and the part they play in sanitation is not always identical. Sometimes

they act merely as sources of information on given points, sometimes they take a direct part in the settlement of sanitary questions.

In a general way each army acts in regard to sanitation and preventive medicine as if it were an independent unit, but in respect of principle their work is closely correlated by two officers attached nominally to the staff of the Inspector-General of the Lines of Communication, but really forming part of the staff of General Head Quarters. One of them is an expert in pathology and the other an expert in hygiene. They advise the Director-General on all questions of preventive medicine, affecting any particular army or the Expeditionary Force as a whole, or on which he may have to give a decision. The practical and theoretical knowledge of sanitation possessed by most officers of the R.A.M.C. is more extensive than that of the great majority of their civilian colleagues, and the importance attached to this subject never ceases to grow. Nevertheless, comparatively few of them seem to wish to specialize in this subject. One reason, perhaps, is that the extra allowance made to a specialist in sanitation is no greater than to specialists of half a dozen other subjects, while the calls made upon his time and energies are pretty certain to be larger and more constant. Furthermore, it is not at present a speciality which, if practised with success, necessarily paves the way to the highest positions in the Army Medical Service.

It should be noted in conclusion that the appointments mentioned are not entirely a new departure, for the D.M.S. of the original army had a sanitary expert on his staff, and the senior medical officer of practically every hospital base has always enjoyed assistance of the same order.

CASUALTIES IN THE MEDICAL SERVICES.

ARMY.

Killed in Action.

CAPTAIN JOHN LESLIE GREEN, R.A.M.C. (T.F.), was reported as "missing, believed killed," in the casualty list published on July 11th (BRITISH MEDICAL JOURNAL, July 15th). The announcement below shows that he was killed. He was educated at Cambridge and at St. Bartholomew's, and became M.R.C.S. and L.R.C.P. Lond. in 1913. He subsequently served as resident medical officer of the Huntingdon County Hospital and as a ship surgeon on the Elder Dempster line of steamers. He joined the 5th Territorial Battalion of the South Staffordshire Regiment as lieutenant and medical officer on September 28th, 1914, and was promoted to captain a year later.

The supplement to the *London Gazette* issued on August 5th announces that the King has conferred the Victoria Cross upon Captain Green for most conspicuous devotion to duty. Although himself wounded he went to the assistance of an officer who had been wounded and was hung up on the enemy's wire entanglements, and succeeded in dragging him to a shell hole, where he dressed his wounds, notwithstanding that bombs and rifle grenades were thrown at him the whole time. Captain Green then endeavoured to bring the wounded officer into safe cover, and had nearly succeeded in doing so when he was himself killed.

Lieutenant B. R. Roberts, R.A.M.C. (temporary).

Died on Service.

Captain Herbert Rennie Robertson, R.A.M.C., attached Essex Yeomanry, died in London, after an operation, on July 29th. He was educated at Trinity College, Dublin, where he took the degrees of M.B., B.Ch., B.A.O., and M.D. in 1895; and prior to the war was in practice at Tientsin, North China.

Wounded.

Captain H. G. Bruce, R.A.M.C. (T.F.)
Captain W. S. Garden, R.A.M.C. (temporary).
Captain E. H. Griffin, R.A.M.C. (temporary).
Captain A. C. Hancock, R.A.M.C. (temporary).
Captain A. Hines, R.A.M.C. (temporary).
Captain O. H. Peters, R.A.M.C. (T.F.).
Captain M. Scott, R.A.M.C. (temporary).
Captain J. P. Walsh, Canadian A.M.C.
Captain J. R. N. Warburton, R.A.M.C. (S.R.).
Lieutenant W. E. H. Beard, R.A.M.C. (temporary).
Lieutenant H. G. Gibson, R.A.M.C. (temporary).

Missing, believed Killed.

Captain J. H. Beilby, R.A.M.C. (T.F.), Yeomanry.

DEATHS AMONG SONS OF MEDICAL MEN.

Alexander, Philip Mansell, Second Lieutenant Gordon Highlanders, eldest son of Dr. S. P. Alexander, of Southsea, died of wounds on July 30th.

Binns, Raymond Lewis, Second Lieutenant Princess of Wales's Own Yorkshire Regiment, son of the late William Binns, M.D., of East Bergholt, Suffolk, killed July 10th. His commission was dated April 22nd, 1915.

Cheese, Ernest Vermont, Lieutenant Army Pay Department, younger son of the late Dr. James Cheese, died of pneumonia at No. 2 Red Cross Hospital, Rouen, on July 30th. He got his commission in September, 1915.

Crombie, Ian Osborne, Captain Middlesex Regiment, second son of Dr. Crombie, of Sidcup, Kent, killed on July 30th, aged 21. He was educated at Merton Court, Sidcup; at St. Paul's School; and at Wadham College, Oxford, where he had been in residence for a year when the war began, having gained scholarships both at St. Paul's and at Oxford. He got his first commission from the Oxford O.T.C., became lieutenant on January 28th, 1915, and captain in December. In May, 1915, he went to the front, was wounded on August 24th, rejoined in February, and went through the crater fighting in the Hohen-zollern Redoubt last March.

Dickey, Stanley, Sergeant Canadian Mounted Rifles, son of Dr. Dickey, late of Antrim Road, Belfast, now of Saskatchewan, Canada, killed in July while endeavouring to extricate some men buried in a blown-up trench. He was at one time on the staff of the *Belfast Evening Telegraph*, but enlisted in Canada.

Ferguson, A. L. H., Lieutenant Gordon Highlanders, second son of the late Major Ferguson, I.M.S., killed on July 23rd. He was educated at Aberdeen Grammar School and at Epsom College, enlisted in September, 1914, got a commission in October, and became lieutenant on March 5th, 1915. He was wounded, losing an eye, in November, 1915, and wounded a second time in March, 1916.

Hatch, Laurence Collier, Lieutenant Durham Light Infantry, second son of Dr. F. H. Hatch, of Copse Hill, Wimbledon, reported "missing, believed wounded," on September 25th-27th, 1915, now presumed killed, aged 21. He was born in South Africa, educated at Oundle School and at Pembroke College, Cambridge, and got his commission on September 14th, 1914. He went to the front on September 18th, 1915, and was killed at Loos a week later.

Holland, Archibald Close, Lieutenant Bedfordshire Regiment, youngest son of Dr. Holland, of St. Moritz, Switzerland, killed July 27th. He got his first commission on May 18th, 1915.

Jameson, Alan Battersby, Second Lieutenant Cambridgeshire Regiment, son of the late Major Granville Jameson, I.M.S., killed July 21st, aged 22. He was educated at Denstone and at Sidney Sussex College, Cambridge, where he was studying for the Church before he joined the army. He went to the front last February.

Latimer, Hugh, Lieutenant Queen's Own Royal West Kent Regiment, only child of Dr. H. A. Latimer, of Trengweath, Molyneux Park, Tunbridge Wells, killed July 3rd, aged 19. He was educated at Llanyre Hall, Llandrindod Wells, and at Rugby, which he left in December, 1914, having gained an open scholarship at Brasenose College, Oxford, which, however, he was not able to take up, having got a commission from December 30th, 1914.

McSwiny, Claude O'Connell, Second Lieutenant King's Shropshire Light Infantry, younger son of Fleet Surgeon McSwiny, R.N.(ret.), of Brandize Park, Okehampton, Devon, killed July 14th, aged 19. His commission was dated May 22nd, 1915.

Moir, Douglas Dana Drew Kinnaird, Second Lieutenant Yorkshire Regiment, second son of Major F. Drew Moir, R.A.M.C., of Pembridge Villas, London, W., killed on July 23rd, while leading his men in the attack on the German line. He was born at Halifax, Nova Scotia, on December 12th, 1894, educated at Plymouth College, and on November 4th, 1914, received a temporary commission in the 10th Battalion of the Norfolk Regiment. Thence he passed into Sandhurst, and while there played for the Rugby fifteen. On December 21st, 1915, he was gazetted to the Yorkshire Regiment. He was the grandson of the late Captain H. Kinnaird Alloway, of the Royal Monmouthshire Light Infantry.

O'Connor, Arthur Cathal, Captain Norfolk Regiment, only son of Colonel A. P. O'Connor, C.B., Army Medical Staff, killed on July 25th, aged 24. He was educated at Wellington and at Trinity College, Cambridge, and represented both his school and his college at gymnastics. He joined the army in 1913, became lieutenant on August 19th, 1914, and captain in May, 1915. He was wounded in the battle of the Aisne, and received the Military Cross on June 3rd, 1916.

Power, Reginald Colin, Private Royal Fusiliers, only son of Dr. Power, of Atherstone, Warwickshire, killed July 16th, aged 25.

Young, Frank Irvin, Second Lieutenant Brigade Staff, 1st Battalion Northumberland Fusiliers, sixth son of Dr. Ralph Young, Royton, Lancs. He was a dentist, L.D.S.Glas., and had previously served in the Army Service Corps during the Boer war. He was killed by shell whilst bravely extinguishing burning stores and ammunition on July 24th.

NOTES.

HONOURS.

THE *London Gazette* of August 3rd publishes dispatches from Sir G. Smith, Governor of the Nyasaland Protectorate, and Colonel G. M. P. Hawthorn, officer in command of the troops

in the military operations in Nyasaland from October, 1914, to October, 1915. Among the officers specially mentioned in these dispatches is Dr. (temporary Captain) Norman MacLean Leys, of the Colonial Medical Service, British Central Africa.

MEDICAL OFFICERS WANTED.

Scottish Women's Hospitals for Foreign Service.

Applications are invited from fully qualified medical women for posts in connexion with the Scottish Women's Hospitals. All members of the medical staff now receive an honorarium at the rate of £200 per annum, with uniform, travelling expenses, board, and laundry.

Scotland.

A TRAVELLING exhibition of maternity and child welfare work, food values, thrift, and home nursing has paid its first visit to Keith, Banffshire, where it was opened by Dr. Leslie Mackenzie, medical member of the Local Government Board for Scotland, on August 7th. After two days at Keith it goes on to other towns and villages in the county and afterwards moves through other counties in the north of Scotland.

HOME FOR HELPLESS SOLDIERS.

The Ralston Hospital, at Paisley, equipped by Sir Charles Cayzer and given to the Scottish branch of the British Red Cross Society for the reception of paralysed soldiers and sailors domiciled in Scotland, was opened by the Duchess of Montrose on August 2nd. Sir George Beatson presided. The Duchess of Montrose said that the Scottish patients in the Star and Garter Home at Richmond were homesick, and Sir Charles Cayzer had not only offered his beautiful residence for the purpose of a Scottish home but he had equipped it with everything needed that could contribute to the comfort of the patients. They would need skilled and special nursing for a long time, but it was hoped that surgical science might do much to enable many of them to regain the powers they had lost. The gift of the hospital was formally accepted by Surgeon-General Culling on behalf of the War Office, and Sir George Beatson in thanking Sir Charles Cayzer said that from the start he had spared no effort to make the home as fine as possible for the purpose. The Scottish Red Cross Executive has undertaken the responsibility for the maintenance of the home and appeals to the Scottish people to provide the funds.

EDINBURGH HOSPITAL FOR INCURABLES.

At the annual meeting of the Royal Hospital for Incurables, presided over by Dr. A. G. Miller, it was stated that the number of patients under treatment in the Longmore Hospital and the Liberton Cottage Hospital during the year ending March, 1916, was 346, of whom 115 had been admitted during the year; 142 had died, left, or been discharged, leaving 204 in hospital. The institutions are for the palliative treatment of disease presumably incurable, but calling for continuous medical supervision and skilled nursing. The Chairman appealed for increased funds for the maintenance of the institutions, for the provision of additional accommodation mainly for cancer cases, and for the remodelling of the accommodation of the nursing staff at the Longmore Hospital. He mentioned that two former patients were now serving in the army at the front.

SCOTTISH UNIVERSITY ORDINANCE.

The present position with regard to the ordinance of the Scottish university courts relating to entrance examinations seems to be that it is now lying on the table of the House of Commons, but that there is a difference of opinion as to the advisability of putting it into force, at any rate at the present time. The Glasgow Council has declared itself in favour of delay, objecting particularly to the proposed substitution of a permanent entrance board for the joint board. The committee of the Edinburgh University General Council, on the other hand, has put out a memorandum deprecating any action by either House of Parliament which would interfere with or delay approval of the ordinance by His Majesty in Council, believing that none of the objections raised have sufficient weight to justify the postponement of a valuable and carefully considered reform in university methods. It has also pointed out that the university courts would retain unimpaired their capacity